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Notice of Allowability

Application No.

10/038,217

Examiner

Aravind K. Moorthy

Applicant(s)

UNGER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 26 June 2007.
2. ☒ The allowed claim(s) is/are 1-40,51-135 and 139-178.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
 Paper No./Mail Date see attachment
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
 Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

1. This is in response to the amendment filed on 26 June 2007.
2. Claims 1-40, 51-135 and 139-178 are pending in the application.
3. Claims 1-40, 51-135 and 139-178 have been allowed.
4. Claims 41-50 and 136-138 have been cancelled.

Response to Amendment

5. The examiner approves of the amendment made to the claims. No new matter has been added.

Terminal Disclaimer

6. The terminal disclaimer filed on 21 May 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 7,124,303 and U.S. Patent No. 7,155,012 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

7. Claims 1-40, 51-135 and 139-178 are allowed.

The following is an examiner's statement of reasons for allowance:

The current application is directed towards an encryption arrangement for multiple encryption of television programs. A system according to embodiments of the present invention multiple encrypts only a portion of the data required for full presentation of a television program to permit coexistence of multiple conditional access encryption systems associated with multiple manufacturer's set-top boxes within a single system. In one embodiment, only critical packets such as those carrying a payload incorporating packetized elementary stream header information

is encrypted. By only encrypting a portion of the program, dramatically less bandwidth is consumed than the alternative of multiple encryption of all program data, thus permitting a larger number of programs to be carried over the same bandwidth while permitting coexistence of multiple conditional access systems in a single cable television system.

The closest prior art to the current application was Javed US 2001/0036271 A1 (hereinafter Javed). Javed is directed towards a system and method for use in a communication network that communicates with a plurality of digital content servers to provide selected digital data files, including video and audio files, for download to a subscriber device. A segmentation controller is provided for dividing the selected into segments. An encryption controller is provided for compressing and encrypting each of the segments with a selected one of a plurality of encryption keys. The segments are then transmitted at or above the average bandwidth of the communication network to a subscriber device. A copy of the decryption keys are transmitted to the subscriber device to enable playback of the selected file only with a current verification of the subscriber device.

However, there are differences between Javed and the current application. Paragraphs 0066-0068 discuss the data formatted in packets as illustrated in Figs. 7 and 8. Fig. 7 illustrates a header 700 attached to files on a VPOP network (see paragraph 0065). Fig. 8 illustrates a header attached to records in a VPOP database (see paragraph 0067). Paragraphs 0066-0068 describe the various fields in these headers. However, Javed does not disclose or suggest *"examining unencrypted packets of data in a digital television signal to identify a packet type and duplication of those packets of a particular type"* and *"duplicating packets identified as being of the packet type to create first and second duplicate packets"*, to use the

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language of claim 1 as an illustrative example. While it is noted that in Javed, multiple copies of a video may be downloaded, and the number of copies are tracked in these headers, the claim elements quoted above are missing from Javed. Javed does not disclose or suggest support of multiple encryption of the first and second duplicate packets. Paragraph 90 of Javed states that the video file is divided into segments and that each segment is individually encrypted using a different encryption and decryption key pair for each segment. In this manner, if one of the key pairs is compromised, only a single segment of the video is compromised. However, in the claims at issue, again using claim 1 as an example, packets of a particular type are first duplicated and then each duplicate copy is encrypted using first and a second encryption method. Note that this results in at least two duplicate redundant copies of the one packet of the particular packet type. While there may be multiple copies of the video present in Javed, and while there may be multiple copies of segments of the video encrypted by different means in Javed, there is no disclosure that meets the claim features. In Javed, the above stream of packets would be encrypted as: EVC1 EWC2 EXC3 EYC4 EZC5 where EV, EW, EX, EY and EZ represent encryption with five different encryption decryption key pairs. Javed, however, only discloses that each segment is decoded with its respective decryption key. Again using claim 1 as an example, once the packet is encrypted with first and second encryption methods, the single unencrypted digital video packet is replaced by two encrypted packets having the same content, but encrypted using different encryption methods. Thus, in claim 1 (for example) the selected packet is duplicated, multiple encrypted and multiple copies are inserted within the television signal in place of the original single unencrypted packet (thus portions of the television signal are

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redundant and encrypted using multiple encryption methods). In Javed, no such process is described, contemplated or hinted at. The independent claims of Javed are further revealing as to his failure to contemplate the presently claimed invention, in that they all call for *"encrypting each of said plurality of segments with a selected one of said plurality of encryption keys"* (emphasis added). This claim language makes the meaning of paragraphs 0066-0068, 0090-0091 abundantly clear and places the meaning of Javed in stark contrast to the language of Applicants' claims.

Any claims not directly addressed are allowed on their virtue of dependency or recite similar limitations as independent claim 1.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K. Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aravind K Moorthy 
July 18, 2007


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